

Interactive comment on “Differences in carbon cycle and temperature projections from emission- and concentration-driven earth system model simulations” by P. Shao et al.

C.D. Jones (Referee)

chris.d.jones@metoffice.gov.uk

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thanks for the explanation regarding the units of carbon stores/fluxes. I agree in that case your figure is correct, so apologies I mis-understood.

I would thoroughly recommend though that you change units to mass of carbon (PgC). This is the "industry standard" if you like and would avoid much confusion.

For the atmosphere (if you show that alone) there are several choices - PgCO₂ is OK, as is PgC or ppm. There are plenty of studies which use any of these, but the choice only makes sense when you show the atmosphere on its own.

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For land carbon the ONLY choice which makes sense is PgC - the land doesn't store CO₂, so you can't use PgCO₂. Carbon in organic forms has many different molecular structures, so simply quoting the total mass of carbon is simplest and best. If you want to then compare with the atmosphere/ocean store, that restricts your use for those too.

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